

**CLAIMS**

WHAT IS CLAIMED IS:

1. A system that implements RF power measurements in a broadband communications device, comprising:

5 a thermal device; and

an automatic gain control circuit coupled to the thermal device such that the thermal device is enabled to compensate for variances in the automatic gain control circuit.

2. The system of claim 1 wherein the thermal device is a variable thermister.

10 3. The system of claim 1 further comprising a temperature independent operational amplifier.

4. The system wherein the thermal device varies gain in reverse polarity to an IF/RF gain change across temperature.

15 5. The system of claim 1 wherein the thermal device has a positive temperature coefficient device.

6. The system of claim 1 wherein the thermal device has an ambient resistive accuracy of about 1 percent as large as any other resistor in the circuit.

7. The system of claim 1 wherein the broadband communications device comprises a LBT4030 compliant device.

5 8. The system of claim 1 wherein the thermal device is a variable resistance resistor.

9. The system of claim 1 wherein the thermal device has a temperature coefficient that has a curve matched to a tuner's gain across a temperature range.

10 10. The system of claim 1 wherein the thermal device has a dissipation constant that is calculated based on the resistance device coefficient.

11. A method of calibrating a broadband communications device, comprising:  
disabling a TOP operation;  
setting a RF input power;  
reading an AGC GAIN value; and  
5 setting the broadband communications device based on the read AGC  
value.

12. A method of claim 11 further comprising the act of returning to TOP  
operation.

13. A method of claim 11 further comprising setting the broadband  
10 communications device to a first predetermined frequency.

14. A method of claim 13 further comprising setting the broadband  
communications device to a second predetermined frequency.

15. A method of claim 14 further comprising setting the RF input power at the  
second predetermined frequency.

16. A method of claim 15 further comprising reading a second AGC GAIN  
15 value based on the second predetermined frequency.

17. A method of claim 16 further comprising setting the read AGC values as the TOP values for appropriate tuned frequencies.

18. A broadband communications device capable of being calibrated by:

disabling a TOP operation;

setting a RF input power;

reading an AGC GAIN value; and

5            setting the broadband communications device based on the read AGC value.

19. The broadband communications device of claim 18 further comprising  
setting the broadband communications device to a first predetermined frequency,  
and setting the broadband communication device to a second predetermined  
10           frequency.

20. The broadband communications device of claim 19 further comprising  
setting the RF input power to the second predetermined frequency and reading a  
second AGC GAIN value based on the second predetermined frequency.